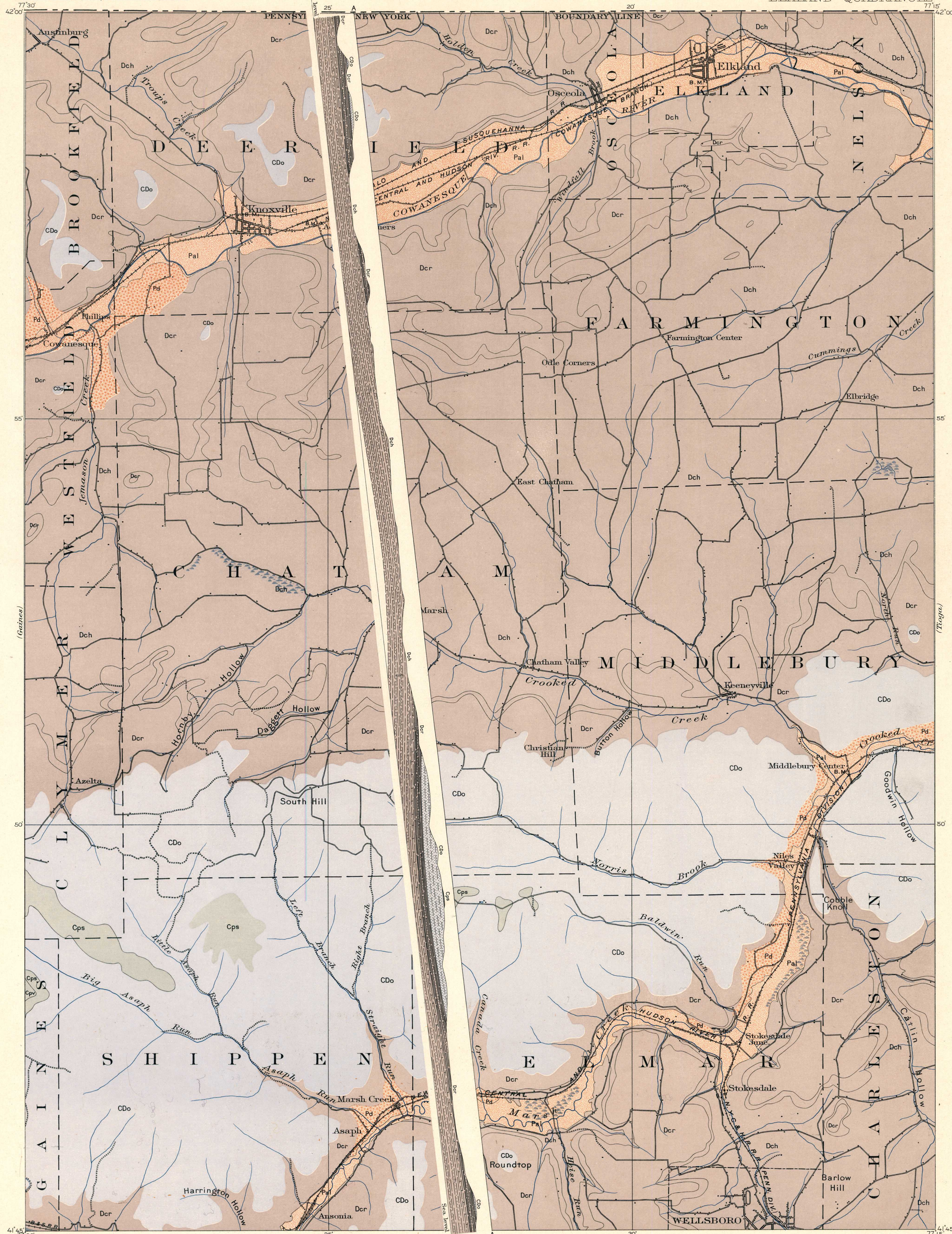


U.S. GEOLOGICAL SURVEY
CHARLES D. WALCOTT, DIRECTOR
STATE OF PENNSYLVANIA
GEORGE W. MCNEES, SIMON HARROLD,
FRED D. BARKER, COMMISSIONERS

STRUCTURE SECTION

PENNSYLVANIA
(TIOGA COUNTY)
ELKLAND QUADRANGLE



LEGEND

SURFICIAL ROCKS

SHEET SYMBOL

Pal Valley alluvium (gravel, sand, and silt in the larger valleys)
Pd Deposits other than alluvium (shown only where deeply covering the boundaries between underlying formations)

PLEISTOCENE

SEDIMENTARY ROCKS

SHEET SYMBOL

SECTION SYMBOL

Cpv Pottsville formation exclusive of Sharon conglomerate (buff sandstone and gray to black shale)
Cps Sharon conglomerate member of Pottsville formation (white quartz conglomerate at the base of the formation)

CARBONIFEROUS

UNCONFORMITY

CDs Osgood formation (green sandstone and shale)

Dcr Cattaraugus formation (red shale and sandstone)

Dch Chemung formation (buff and gray shale, sandstone, and impure limestone)

DEVONIAN

H.M. Wilson, Geographer in charge.
Control by S.S. Gannett, Oscar Jones, and J.W. Thom.
Topography by J.H. Jennings and J.W. Thom.
Surveyed in 1899 in cooperation with the State of Pennsylvania.

Scale 1:25,000
1 1/2 0 1 2 3 4 Miles
1 1/2 0 1 2 3 4 Kilometers

M.R. Campbell, Geologist in charge.
Geology by M.L. Fuller, J.D. Irving, and Charles Butts.
Surveyed in 1900.

Edition of June 1903.